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EXAMINER

YANG, JAMES J

ART UNIT

PAPER NUMBER

2612

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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patentprocurement@perkinscoie.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/568,793	<b>Applicant(s)</b> COOK ET AL.	
	<b>Examiner</b> JAMES YANG	<b>Art Unit</b> 2612	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02/17/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/08/2008 02/17/2006 05/28/2010</u>                          | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

Claims 13-18 are objected to because of the following informalities:

In claim 13, “temperature sensing means configured sense” and “water content sensing means configured sense” should be changed to --temperature sensing means configured to sense-- and --water content sensing means configured sense--, respectively. Claims 14-18 are further objected to because of their dependency on claim 13.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4, 7, 13-15, 17, 19-22, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Breda et al. (GB 2329016 A).

Claim 1, Breda teaches:

**A system for detecting icing conditions external to a vehicle** (Breda, Page 1, Lines 3-6), **comprising:**

**a temperature sensor configured to direct a first signal corresponding to a temperature of an airstream** (Breda, Fig. 1: 6, Page 4, Lines 23-25);

**a water content sensor configured to direct a second signal corresponding to a water content of the airstream** (Breda, Fig. 1: 1-4, Page 4, Lines 13-22); and

**a processing unit coupled to the temperature sensor and the water content sensor to receive the first and second signals** (Breda, Fig. 1: 5, Page 4, Lines 23-25, Page 7, Lines 29-31 through Page 8, Lines 1-3) **and, based on at least the first and second signals, provide an indication when at least the first and second signals taken together correspond to an at least incipient icing condition** (Breda, Page 7, Lines 29-31 through Page 8, Lines 1-3 and Page 10, Lines 1-8).

Claim 2, Breda further teaches:

**The water content sensor includes at least one of a liquid water content sensor, a total water content sensor and an ice crystal sensor** (Breda, Page 4, Lines 26-29, The optical device is able to differentiate between liquid water particles and solid water particles, thus is a water content sensor.).

Claim 3, Breda further teaches:

**The temperature sensor, the water content sensor and the processing unit are configured to mount to an aircraft** (Breda, Page 2, Lines 1-3).

Claim 4, Breda further teaches:

**The temperature sensor and the water content sensor are positioned in a single housing** (Breda, Fig. 1, The system is housed within the skin of an aircraft.).

Claim 7, Breda further teaches:

**The temperature sensor and the water content sensor are positioned remotely from each other** (Breda, Page 7, Lines 29-31 through Page 8, Line 1).

Claim 13, Breda teaches:

**A system for detecting icing conditions external to a vehicle** (Breda, Page 1, Lines 3-6), **comprising:**

**temperature sensing means configured to sense a temperature of an airstream and direct a first signal corresponding to the temperature** (Breda, Fig. 1: 6, Page 4, Lines 23-25);

**water content sensing means configured to sense a water content of the airstream and direct a second signal corresponding to the water content** (Breda, Fig. 1: 1-4, Page 4, Lines 13-22); **and**

**processing means coupled to the temperature sensing means and the water content sensing means and configured to receive the first and second signals** (Breda, Fig. 1: 5, Page 4, Lines 23-25, Page 7, Lines 29-31 through Page 8, Lines 1-3) **and, based at least on the first and second signals, provide an indication when at least the first and second signals taken together correspond to**

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**an at least incipient icing condition** (Breda, Page 7, Lines 29-31 through Page 8, Lines 1-3 and Page 10, Lines 1-8).

Claim 14, Breda further teaches:

**The temperature sensing means, the water content sensing means and the processing means are configured to mount to an aircraft** (Breda, Page 2, Lines 1-3).

Claim 15, Breda further teaches:

**The temperature sensing means and the water content sensing means are positioned in a single housing** (Breda, Fig. 1, The system is housed within the skin of an aircraft.).

Claim 17, Breda further teaches:

**The temperature sensing means and the water content sensing means are configured to be positioned remotely from each other** (Breda, Page 7, Lines 29-31 through Page 8, Line 1).

Claim 19, Breda teaches:

**A method for detecting icing conditions external to a vehicle** (Breda, Page 1, Lines 3-6), **comprising:**

**receiving a first signal corresponding to a temperature of an airstream external to a vehicle** (Breda, Fig. 1: 6, Page 4, Lines 23-25);

**receiving a second signal corresponding to a water content of the airstream** (Breda, Fig. 1: 1-4, Page 4, Lines 13-22); **and**

**based on at least the first and second signals, automatically generating an indication when at least the first and second signals taken together correspond to an at least incipient icing condition** (Breda, Page 7, Lines 29-31 through Page 8, Lines 1-3 and Page 10, Lines 1-8).

Claim 20, Breda further teaches:

**Receiving the second signal includes receiving the second signal from at least one of a liquid water content sensor, a total water content sensor and an ice crystal sensor** (Breda, Page 4, Lines 26-29, The optical device is able to differentiate between liquid water particles and solid water particles, thus is a water content sensor.).

Claim 21, Breda further teaches:

**The processes of receiving the first signal, receiving the second signal and automatically generating an indication of claim are performed on board an aircraft** (Breda, Page 2, Lines 1-3).

Claim 22, Breda further teaches:

**Receiving the first and second signals includes receiving the first and second signals from sensors positioned in a single housing** (Breda, Fig. 1, The system is housed within the skin of an aircraft.).

Claim 24, Breda further teaches:

**Receiving the first signal includes receiving the first signal from a temperature sensor and wherein receiving the second signal includes receiving the second signal from a water content sensor positioned remotely from the temperature sensor** (Breda, Page 7, Lines 29-31 through Page 8, Line 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-6, 16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breda et al. (GB 2329016 A) in view of Forgue et al. (U.S. 4,333,004).

Claim 5, Breda does not teach:

**The water content sensor includes a heated wire positioned to be impinged by water contained in the airstream.**



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Forgue teaches:

**The water content sensor includes a heated wire positioned to be impinged by water contained in the airstream** (Forgue, Col. 3, Lines 21-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ice detection device in Breda by integrating the teaching of a reference and sensor wire as taught by Forgue.

The motivation would be to accurately detect the presence of ice and avoiding false indications when water is present (see Forgue, Col. 3, Lines 35-39).

Claim 6, Breda teaches:

**The processing unit is configured to provide a positive indication of an at least incipient icing condition when the temperature sensor detects a temperature corresponding to a static temperature, and the water content sensor detects liquid water** (Breda, Page 10, Lines 1-8).

Breda does not teach:

**The temperature sensor detects a temperature corresponding to a static temperature at or below a local freezing point for water.**

Forgue teaches:

**The local freezing point of water changes with vehicle velocity and changes in air pressure** (Forgue, Col. 1, Lines 44-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that the temperature measured by the temperature probe in Breda

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would measure a static temperature at or below a local freezing point for water when the aircraft is in motion, as taught by Forgue. It is further noted that the term static temperature is interpreted as being the temperature measured by a temperature sensor at a specific location, i.e. ambient temperature.

The motivation would be to accurately detect the presence of ice and avoiding false indications when water is present (see Forgue, Col. 3, Lines 35-39).

Claim 16, Breda teaches:

**The processing means is configured to provide a positive indication of an at least incipient icing condition when the temperature sensing means detects a temperature corresponding to a static temperature, and the water content sensor detects liquid water** (Breda, Page 10, Lines 1-8).

Breda does not teach:

**The temperature sensor detects a temperature corresponding to a static temperature at or below a local freezing point for water.**

Forgue teaches:

**The local freezing point of water changes with vehicle velocity and changes in air pressure** (Forgue, Col. 1, Lines 44-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that the temperature measured by the temperature probe in Breda would measure a static temperature at or below a local freezing point for water when the aircraft is in motion, as taught by Forgue. It is further noted that the term static

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temperature is interpreted as being the temperature measured by a temperature sensor at a specific location, i.e. ambient temperature.

The motivation would be to accurately detect the presence of ice and avoiding false indications when water is present (see Forgue, Col. 3, Lines 35-39).

Claim 23, Breda teaches:

**Determining when the temperature sensor detects a temperature corresponding to a static temperature** (Breda, Page 10, Lines 1-8);

**determining when the water content sensor detects liquid water** (Breda, Page 10, Lines 1-8); **and**

Breda does not teach:

**Detecting a temperature corresponding to a static temperature at or below a local freezing point for water; and**

**generating the indication only when both the temperature sensor detects a temperature corresponding to a static temperature at or below a local freezing point for water and the water content sensor detects liquid water.**

Forgue teaches:

**The local freezing point of water changes with vehicle velocity and changes in air pressure** (Forgue, Col. 1, Lines 44-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that the temperature measured by the temperature probe in Breda would measure a static temperature at or below a local freezing point for water when

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the aircraft is in motion, as taught by Forgue. It is further noted that the term static temperature is interpreted as being the temperature measured by a temperature sensor at a specific location, i.e. ambient temperature.

The motivation would be to accurately detect the presence of ice and avoiding false indications when water is present (see Forgue, Col. 3, Lines 35-39).

Furthermore, as per the limitation of **generating the indication only when both the temperature sensor detects a temperature corresponding to a static temperature at or below a local freezing point for water and the water content sensor detects liquid water**, it would have been obvious to one of ordinary skill in the art to modify the indication in Breda with the ability to measure temperatures at or below freezing in Forgue. The motivation would be to prevent liquid water particles from instantaneously freezing on an aircraft, as is known in the art (see Breda, Page 2, Lines 23-30).

3. Claims 8-9, 11, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breda et al. (GB 2329016 A) in view of Fleming (U.S. 6,809,648).

Claim 8, Breda does not teach:

**The temperature sensor is configured to detect a total temperature of the airstream.**

Fleming teaches:

**The temperature sensor is configured to detect a total temperature of the airstream** (Fleming, Col. 1, Lines 24-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that the ice detection device in Breda measures total temperature, the term total temperature being defined in Fleming. The term total temperature is interpreted as a function of the aircraft speed and static temperature.

The motivation would be to use known methods of measuring total temperatures surrounding an aircraft in flight for determining ice conditions (see Fleming, Col. 1, Lines 39-40).

Claim 9, Breda teaches:

**The temperature sensor is configured to detect a temperature of the airstream** (Breda, Page 4, Lines 23-25), **and wherein the processing unit is configured to determine a temperature of the airstream based at least in part on the first signal** (Breda, Page 7, Lines 29-31 through Page 8, Lines 1-3 and Page 10, Lines 1-8).

Breda does not specifically teach:

**Detecting a total temperature and determining a static temperature of the airstream based at least in part on the first signal.**

Fleming teaches:

**Detecting a total temperature and determining a static temperature of the airstream based at least in part on the first signal** (Fleming, Col. 1, Lines 24-38).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ice detection device in Breda by integrating the teaching of measuring total temperatures and calculating static temperatures, as taught by Fleming. The term total temperature is interpreted as a function of the aircraft speed and static temperature.

The motivation would be to use known methods of measuring total temperatures and calculating static temperatures for an aircraft in flight for determining ice conditions (see Fleming, Col. 1, Lines 39-40).

Claim 11, Breda does not teach:

**The processing unit is operatively couplable to a pressure sensor to receive a third signal corresponding to a pressure of the airstream, and wherein the processing unit is configured to provide the indication based on the first, second and third signals.**

Fleming teaches:

**The processing unit is operatively couplable to a pressure sensor to receive a third signal corresponding to a pressure of the airstream (Fleming, Fig. 8: 830, Col. 5, Lines 62-65), and wherein the processing unit is configured to provide the indication based on the first, second and third signals (Fleming, Col. 6, Lines 10-24).**

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ice detection device in Breda by integrating the teaching of a pressure sensor as taught by Fleming.

The motivation would be to use known methods of measuring total temperatures and calculating static temperatures for an aircraft in flight for determining ice conditions (see Fleming, Col. 1, Lines 39-40 and Col. 6, Lines 25-49). Furthermore, it is well-known in the art that the freezing point of water increases as altitude increases, i.e. as atmospheric pressure decreases. Thus, having a pressure sensor would allow more accurate determination of relative freezing temperatures and thus an improved sensing of icing conditions.

Claim 25, Breda teaches:

**Receiving a first signal includes receiving a first signal corresponding to a temperature of the airstream** (Breda, Page 4, Lines 23-25), **and wherein the method further comprises determining a temperature of the airstream based at least in part on the first signal** (Breda, Page 7, Lines 29-31 through Page 8, Lines 1-3 and Page 10, Lines 1-8).

Breda does not specifically teach:

**Receiving a total temperature and determining a static temperature of the airstream based at least in part on the first signal.**

Fleming teaches:

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**Receiving a total temperature and determining a static temperature of the airstream based at least in part on the first signal** (Fleming, Col. 1, Lines 24-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ice detection device in Breda by integrating the teaching of measuring total temperatures and calculating static temperatures, as taught by Fleming. The term total temperature is interpreted as a function of the aircraft speed and static temperature.

The motivation would be to use known methods of measuring total temperatures and calculating static temperatures for an aircraft in flight for determining ice conditions (see Fleming, Col. 1, Lines 39-40).

4. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breda et al. (GB 2329016 A) in view of Severson et al. (U.S. 6,560,551).

Claim 10, Breda teaches:

**The system further comprises a housing, the housing being disposed around the water content sensor and the temperature sensor** (Breda, Fig. 1: P, The system is integrated near the skin of an aircraft, which serves as a housing.).

Breda does not teach:

**The water content sensor includes a probe having a first surface positioned to face toward the airstream as the airstream travels along a flow axis, the probe further having a second surface facing opposite from the first surface,**



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**and wherein the temperature sensor includes a static air temperature sensor positioned at least proximate to the second surface of the probe, and the housing having an aperture positioned to receive the airstream, the aperture and the first surface of the probe being aligned along the flow axis.**

Severson teaches:

**The water content sensor includes a probe having a first surface positioned to face toward the airstream as the airstream travels along a flow axis (Severson, Fig. 1: 18, 12, Col. 3, Lines 30-34), the probe further having a second surface facing opposite from the first surface (Severson, Fig. 1: 12, The side of the vibrating probe opposite of the arrows 18, indicating the airflow, is a second surface.), and wherein the temperature sensor includes a static air temperature sensor positioned at least proximate to the second surface of the probe (Severson, Fig. 1: 30, Col. 4, Lines 16-20, The temperature can be a total air temperature or an ambient temperature. The ambient temperature is interpreted as being a static air temperature.), and the housing having an aperture positioned to receive the airstream, the aperture and the first surface of the probe being aligned along the flow axis (Severson, Fig. 1: 12, Col. 4, Lines 13-16, The airflow 18 is collected through a pitot tube which passes the probe 12.).**

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ice detection device in Breda by integrating the teaching of a probe to measure water content and a pitot tube as taught by Severson.

The motivation would be to accurately and timely measure liquid water content in order to promptly activate an aircraft deicing system (see Severson, Col. 1, Lines 6-14).

Claim 18, Breda teaches:

**The system further comprises a housing, the housing being disposed around the water content sensor and the temperature sensor** (Breda, Fig. 1: P, The system is integrated near the skin of an aircraft, which serves as a housing.).

Breda does not teach:

**The water content sensing means includes a probe having a first surface positioned to face toward the airstream as the airstream travels along a flow axis, the probe further having a second surface facing opposite from the first surface, and wherein the temperature sensing means includes a static air temperature sensor positioned at least proximate to the second surface of the probe, and the housing having an aperture positioned to receive the airstream, the aperture and the first surface of the probe being aligned along the flow axis.**

Severson teaches:

**The water content sensing means includes a probe having a first surface positioned to face toward the airstream as the airstream travels along a flow axis** (Severson, Fig. 1: 18, 12, Col. 3, Lines 30-34), **the probe further having a second surface facing opposite from the first surface** (Severson, Fig. 1: 12, The side of the vibrating probe opposite of the arrows 18, indicating the airflow, is a second surface.), **and wherein the temperature sensing means includes a static air temperature**

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**sensor positioned at least proximate to the second surface of the probe**

(Severson, Fig. 1: 30, Col. 4, Lines 16-20, The temperature can be a total air temperature or an ambient temperature. The ambient temperature is interpreted as being a static air temperature.), **and the housing having an aperture positioned to receive the airstream, the aperture and the first surface of the probe being aligned along the flow axis** (Severson, Fig. 1: 12, Col. 4, Lines 13-16, The airflow 18 is collected through a pitot tube which passes the probe 12.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ice detection device in Breda by integrating the teaching of a probe to measure water content and a pitot tube as taught by Severson.

The motivation would be to accurately and timely measure liquid water content in order to promptly activate an aircraft deicing system (see Severson, Col. 1, Lines 6-14).

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breda et al. (GB 2329016 A) in view of Palmer (U.S. 5,796,612).

Claim 12, Breda teaches:

**Each of the temperature sensor, the water content sensor and the processing unit is carried by at least one of the fuselage portion, the wing portion, the empennage portion and the propulsion system** (Breda, Fig. 1: P, Page 4, Lines 13-25, The optical device is attached to the skin of the aircraft, which indicates the fuselage portion of the plane.).

Breda does not explicitly teach:

**An aircraft having a fuselage portion, a wing portion, an empennage portion and a propulsion system.**

Palmer teaches:

**An aircraft having a fuselage portion** (Palmer, Fig. 17: 440, Reference port is installed within the fuselage portion of the aircraft.), **a wing portion** (Palmer, Fig. 17: 580 (on the wing)), **an empennage portion** (Palmer, Fig. 17: 580 (on the tail)) **and a propulsion system** (Palmer, Fig. 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to integrate the ice detection device in Breda into an aircraft as taught by Palmer.

The motivation would be to maximize performance of the aircraft, such as detecting when icing occurs on the tail when the aircraft requires lift so that adjustments may be made (see Palmer, Col. 8, Lines 32-39).

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breda et al. (GB 2329016 A) in view of Fleming (U.S. 6,809,648), and further in view of Forgue (U.S. 4,333,004).

Claim 26, Breda does not teach:

**Receiving a third signal corresponding to a pressure of the airstream; and**

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**determining whether the first signal corresponds to a temperature at or below which water freezes, based on the first signal and the third signal.**

Fleming teaches:

**Receiving a third signal corresponding to a pressure of the airstream**

(Fleming, Fig. 8: 830, Col. 5, Lines 62-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ice detection device in Breda by integrating the teaching of a pressure sensor as taught by Fleming.

The motivation would be to use known methods of measuring total temperatures and calculating static temperatures for an aircraft in flight for determining ice conditions (see Fleming, Col. 1, Lines 39-40 and Col. 6, Lines 25-49). Furthermore, it is well-known in the art that the freezing point of water increases as altitude increases, i.e. as atmospheric pressure decreases. Thus, having a pressure sensor would allow more accurate determination of relative freezing temperatures and thus an improved sensing of icing conditions.

Breda in view of Fleming does not teach:

**Determining whether the first signal corresponds to a temperature at or below which water freezes, based on the first signal and the third signal.**

Forgue teaches:

**The local freezing point of water changes with vehicle velocity and changes in air pressure** (Forgue, Col. 1, Lines 44-58).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that the temperature measured by the temperature probe in Breda in view of Fleming would measure a static temperature at or below a local freezing point for water when the aircraft is in motion, as taught by Forgue. It is further noted that the term static temperature is interpreted as being the temperature measured by a temperature sensor at a specific location, i.e. ambient temperature. Therefore, the combination of Breda in view of Fleming, and further in view of Forgue would be able to determine the freezing point temperature of the aircraft at a measured pressure.

The motivation would be to accurately detect the presence of ice and avoiding false indications when water is present (see Forgue, Col. 3, Lines 35-39).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES YANG whose telephone number is 571-270-5170. The examiner can normally be reached on M-F 8:30-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman can be reached on 571-272-3059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.Y./

/Brian A Zimmerman/  
Supervisory Patent Examiner, Art Unit 2612